

Title (en)

Formaldehyde-free heat resistant binders for nonwovens.

Title (de)

Formaldehydfreie hitzebeständige Bindemittel für nichtgewebte Materialien.

Title (fr)

Liants ne contenant pas de formaldéhyde et résistant à la chaleur pour des non tissés.

Publication

**EP 0387511 A2 19900919 (EN)**

Application

**EP 90101722 A 19900129**

Priority

US 32407189 A 19890316

Abstract (en)

Formaldehyde-free heat resistant binders for flexible nonwoven products may be prepared using an emulsion polymer comprising 100 parts by weight of C1-C4 alkyl acrylate or methacrylate or styrene/acrylate ester monomers, 0.5 to 5 parts of a hydroxyalkyl acrylate or methacrylate, 3 to 6 parts of methyl acrylamido glycolate methyl ether and 0.1 to 5 parts of a multifunctional comonomer. The binders are useful in the formation of heat resistant flexible products for use in roofing, flooring and filtering materials.

IPC 1-7

**D04H 1/64**; **D06M 15/263**; **D06M 15/29**; **D06N 5/00**

IPC 8 full level

**E04D 5/02** (2006.01); **C09J 133/04** (2006.01); **C09J 133/06** (2006.01); **D04H 1/64** (2012.01); **D06M 15/263** (2006.01); **D06M 15/29** (2006.01); **D06N 3/04** (2006.01); **D06N 5/00** (2006.01)

CPC (source: EP US)

**D04H 1/587** (2013.01 - EP US); **D04H 1/64** (2013.01 - EP US); **D06M 15/263** (2013.01 - EP US); **D06M 15/29** (2013.01 - EP US); **D06N 3/042** (2013.01 - EP US); **D06N 5/00** (2013.01 - EP US); **Y10T 442/2721** (2015.04 - EP US)

Cited by

CN109415859A; EP0512732A1; WO2013057086A1; WO2018005112A1; WO9724485A1

Designated contracting state (EPC)

BE DE FR GB IT NL

DOCDB simple family (publication)

**EP 0387511 A2 19900919**; **EP 0387511 A3 19910227**; **EP 0387511 B1 19940831**; AU 4999190 A 19901025; AU 620695 B2 19920220; CA 2008559 A1 19900916; CA 2008559 C 19960220; DE 69011911 D1 19941006; DE 69011911 T2 19950105; JP H02251656 A 19901009; JP H0428819 B2 19920515; US 5011712 A 19910430

DOCDB simple family (application)

**EP 90101722 A 19900129**; AU 4999190 A 19900221; CA 2008559 A 19900125; DE 69011911 T 19900129; JP 2529690 A 19900206; US 32407189 A 19890316